

CLAIMS

We claim:

1. A method of intra-articular drug delivery, comprising:
selecting an attachment zone in a synovial joint; and
affixing a drug release device in the attachment zone, the drug release device
comprising a base affixable in the attachment zone, a sustained-release drug
carrier, and a drug, the device positioned so that the device releases the drug
into the synovial fluid of the synovial joint, and so that agitation of the
synovial fluid facilitates elution of the drug from the drug release device.
2. The method of claim 1, wherein the attachment zone comprises a non-articulating
portion of bone and/or cartilage within the synovial joint.
3. The method of claim 2, further comprising removing the bone and/or cartilage in the
attachment zone to create a void, and so inserting the drug release device into the
void that at least one surface of the drug release device is in communication with the
synovial fluid.
4. The method of claim 3, wherein the drug release device is so inserted that its surface
in communication with the synovial fluid is about flush with surrounding bone
and/or cartilage.
5. The method of claim 2, wherein the attachment zone comprises a band of bone
and/or cartilage adjacent to an articulating surface within the synovial joint.
6. The method of claim 5, wherein the band extends from about 0.5 millimeters to
about 1 centimeter away from the articulating surface.
7. The method of claim 5, further comprising removing the bone and/or cartilage in the
attachment zone to create a void, and so inserting the drug release device into the

void that at least one surface of the drug release device is in communication with the synovial fluid.

8. The method of claim 7, wherein the drug release device is so inserted that its surface in communication with the synovial fluid is about flush with surrounding bone and/or cartilage.
9. The method of claim 1, wherein the synovial joint is a hip joint, and the attachment zone comprises a non-articulating portion of bone and/or cartilage within the hip.
10. The method of claim 9, wherein the attachment zone comprises a band of bone and/or cartilage adjacent to at least one of a femoral head, and an acetabulum.
11. The method of claim 1, wherein the synovial joint is a knee joint, and the attachment zone comprises a non-articulating portion of bone and/or cartilage within the knee.
12. The method of claim 11, wherein the attachment zone comprises a band of bone and/or cartilage adjacent to at least one of a tibial plateau, a femoral condyle, a patellofemoral area, the medial rim of a femoral trochlea, the lateral rim of a femoral trochlea, and the periphery of an intercondylar notch.
13. The method of claim 1, wherein the synovial joint is a shoulder joint, and the attachment zone comprises a non-articulating portion of bone and/or cartilage within the shoulder.
14. The method of claim 13, wherein the attachment zone comprises a band of bone and/or cartilage adjacent to at least one of the anatomical neck of a humerus, a glenoid cavity, and a glenoid neck.

15. The method of claim 1, wherein the synovial joint is an arthroplastic joint comprising at least one prosthesis, and the attachment zone comprises a non-articulating portion of bone and/or cartilage within the joint.
16. The method of claim 15, wherein the attachment zone comprises a band of bone and/or cartilage adjacent to the at least one prosthesis.
17. The method of claim 1, wherein the drug release device is forcefully injected by gun.
18. The method of claim 1, wherein the drug release device comprises threads on its outer surface, and the drug release device is affixed by drilling a hole in the attachment zone and screwing the drug release device into the hole.
19. A method of intra-articular drug delivery, comprising:
step for selecting a para-articular attachment zone in a synovial joint;
step for creating a void in the para-articular attachment zone; and
step for implanting in the void a drug-release means for sustainedly releasing a drug into the synovial fluid of the synovial joint.
20. A sustained-release intra-articular drug delivery device, comprising:
a base, so sized and shaped as to be affixable in an attachment zone of a synovial joint; and
a sustained-release drug carrier coupled to the base, the carrier including a drug, the carrier so formed as to elute the drug into synovial fluid, upon implantation of the device in a joint, sufficient to sustain a therapeutically effective concentration of the drug in the synovial fluid for at least 8 hours.